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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,334	04/02/2004	Bruce D. Hammock	02307W-131010US	1147

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EXAMINER	
KOSAR, ANDREW D	

ART UNIT	PAPER NUMBER
1654	

MAIL DATE	DELIVERY MODE
10/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/817,334	HAMMOCK ET AL.	
	Examiner	Art Unit	
	ANDREW D. KOSAR	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *70,119-121,123-129,131 and 132* is/are pending in the application.

4a) Of the above claim(s) *123 and 124* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *70,119-121,125-129,131 and 132* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/3/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 12, 2008 has been entered. Claims 70, 119-121, 123-129, 131 and 132 are pending.

Response to Amendments/Arguments

Applicant's amendments and arguments filed June 12, 2008 are acknowledged and have been fully considered. Any rejection and/or objection not specifically addressed below in original or modified form below is herein withdrawn.

Applicant asserts that a new Declaration with the signature of Dr. Newman has been submitted with the response (Remarks, page 19 of 26), however no Declaration was submitted with the RCE request, nor does the EFS receipt show any additional documents were submitted. Thus, it remains that the Declaration filed on July 9, 2007 under 37 CFR 1.131 has been considered and is ineffective to overcome the MORISSEAU reference as it lacks Dr. Newman's signature.

The examiner acknowledges amendments to the claims of Application 10/694,641. In light of the amendments, the instant Obviousness Double Patenting is withdrawn. However, it is noted that the instant application may anticipate, if not render obvious the claims of '641, and may require a terminal disclaimer over the instant application.

Election/Restrictions

Claims 123 and 124 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 16, 2006.

Information Disclosure Statement

Applicant's IDS submission on July 3, 2008 is acknowledged and the references therein have been considered. Any reference not in English has been considered to the extent of the provided English abstract.

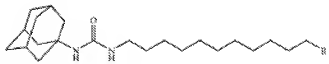
Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

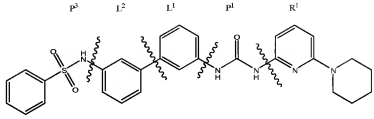
> A person shall be entitled to a patent unless –
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 129, 131 and 132 remain rejected under 35 U.S.C. 102(a) as being anticipated by MORISSEAU (C. Morisseau et al. Biochem. Pharm. (2002) 63, page 1599-1608).

As discussed above, Applicant's declaration under 37 CFR § 1.131 is ineffective, and thus the Morisseau is properly relied upon in a rejection.

The instant claims are drawn generally to inhibitors of soluble epoxide hydrolases, including the elected species  , where R is COOH, and pharmaceutical compositions thereof. Morisseau teaches the species as compound 43 (Table 5, page 1605).

Claims 70 and 119 are rejected under 35 U.S.C. 102(b) as being anticipated by SANTORA (WO 02/14311 A1; IDS 7/3/08).

Santora teaches the compound: 

(e.g. compound 246, page 286) and further teaches pharmaceutical compositions thereof (e.g. pages 303-310). The compound as claimed is a compound "having" a formula (I). Having is 'open' language, similar to 'comprising', and allows for additional elements to be present, furthermore, as evidenced by claim 125, generic recitation of a group allows for both substituted and unsubstituted forms. Here, it is the 1-piperazine that is allowed by the open language. R^1 is heteroaryl, P^1 is the urea, L^1 is unsubstituted arylene, L^2 is unsubstituted arylene, P^3 is is $NHS(O)_2R^2$, where R^2 is unsubstituted aryl, m is 1 and n is 0.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 129, 131 and 132 reamain ejected under 35 U.S.C. 103(a) as being unpatentable over RICHTER in view of Brocchini, as applied to claims 58, 59, 70, 105-109 and 111-114, *supra*, in further view of ABDULLA (US Patent 4,252,954).

Applicant argues that "the examiner is reading more into Richter *et al.* that Richter *et al.* actually teaches." Applicant asserts, without any evidence, that "Richter reasonably expected that a carbon chain up to 10 carbons would provide anti-viral activity, but that a carbon chain with more than 10 carbons would not." (Remarks, page 23 of 26). Applicant asserts that if Richter had known that compounds with 11 or 12 carbon had antiviral activity, Richter would have claimed a larger Markush group. From this, Applicant extrapolates that the artisan would have expected antiviral activity to end at 10 carbons in the chain.

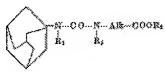
Respectfully, the examiner disagrees with Applicant's arguments. As set forth previously, the MPEP sets forth that similar properties may be presumed when the compounds are similar in structure. It is only Applicant's opinion that Richter specifically stopped at ten because of some 'knowledge' that they wouldn't have expected any antiviral activity beyond 10 carbons. It is noted that MPEP § 2145 states, "The arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness."). Furthermore, Applicant narrowly interprets Applicant's teaching of the generic "alkyl" (e.g. Abstract) to be limited to only 1 to 10.

As stated previously, *KSR* forecloses the argument that a **specific** teaching, suggestion, or motivation is required to support a finding of obviousness (*See Ex Parte Smith*, USPQ2d, slip op.

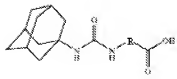
20, (Bd. Pat. App. & Interf. June 25, 2007) (citing *KSR v. Teleflex*, 82 USPQ2d 1396). In rebuttal, Applicant cites *Takeda* in support of the arguments, however *Takeda* is not relevant to the instant application. In *Takeda*, the 'base' compound had deleterious properties- specifically it caused weight gain and an increase in brown fat, thus one would not have been motivated to have selected the 'bad' compound as the lead compound for modification. Further, to arrive at the compound alleged to be obvious, one had to do both homologation- where a methyl was replaced with ethyl AND 'ring walk' the new ethyl to a new position. There was no teaching that BOTH modifications of the 'lead' compound would result in a compound with unexpected properties. Thus, the courts held the compound to be non-obvious. However, in the concurring opinion (Dyk), it is stated that, "However, at oral argument the patentee admitted that the prior art '200 patent also generically covers the 6-ethyl compound, which is within the scope of claims 1 and 5 of the '777 patent, and admitted that there is no evidence of unexpected results for the 6-ethyl compound. Under such circumstances, I believe that the 6-ethyl is likely obvious, and consequently claims 1 and 5 are likely invalid for obviousness." (*Takeda* at 1180). While this is dicta and not the holding of the court in *Takeda*, it clearly provides insight that homologation- or alkyl chain length extension, may be obvious, absent unexpected results. Here, in contrast, the 'lead' compound is a known antiviral, and one is relying upon homologation (alkyl chain length extension) to arrive at compounds with 1 or 2 more carbons. Further, Richer teaches generically 'alkyl', but only claims $C_{1\text{-}10}$. Alkyl is not limited by any specific length, and thus one can only conclude that any alkyl would maintain antiviral activity- and not "only" $C_{1\text{-}10}$.

Here, the compounds of Richter are taught at several lengths, all sharing similar properties. Thus, given that compounds having similar structures are expected to have similar

properties, one would have modified the compounds to varying the carbon chain lengths with the expectation that they would function similarly. Obviousness does not require absolute predictability, only a reasonable expectation of success, i.e., a reasonable expectation of obtaining similar properties. See, e.g., *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). One would clearly have an expectation that if $C_{1\text{-}10}$ have antiviral activity, one would expect longer carbon chains to have antiviral activity.

Richter teaches antiviral compounds N(1-adamantyl)-N'-[10-carboxydecyl(-1)]urea (Example II, column 5), and the esters N(1-adamantyl)-N'-[10-carbethoxydecyl(-1)]urea (example XIX, column 9) and Ad-NH-C(O)-NH-$(CH_2)_3$C(O)O-Et (Table, column 4). It is noted that the esters, e.g. Ad-NH-C(O)-NH-$(CH_2)_3$C(O)O-Et, can read upon the claims as Ad is R^1, urea is P^1, L^1 is propyl (or decyl), P^2 is C(O)O and L^2 is ethyl. Richer further teaches the compounds are of the generic formula  , where $R_{1 \text{ and } 2}$ are H or alkyl and R_3 is H or an ester (Abstract) and where Alk is 1 to 10 carbons.

Richter additionally teaches that the antivirals may be used alone or in combination with other therapeutically active agents and, accordingly, they are valuable adjuncts in the antiviral field." (column 1, lines 42-45).

The difference between the instant claims and the teachings of Richter, is that while Richter teaches the compounds  with R generically being an alkyl

chain (abstract) and more specifically being an alkyl chain of 1-10 (R=1 to 10 carbons), and embodiments therein, Richter does not teach R=11 or 12 carbon species.

It would have been obvious to have made any R=alkyl species, including the R=11 or 12 carbon species, in order to make an antiviral adamantly urea derivative, as Richter teaches that any alkyl group may be placed as R.

One would have been motivated to have made the compounds, including the R=11 or 12 species, as Richter teaches broadly that R can be any alkyl (abstract), and provides more specifically R is 1-10 carbon atoms and provides examples therein, e.g. R=10 carbon.

Further, the MPEP states that, "In fact, similar properties may normally be presumed when compounds are very close in structure. *Dillon*, 919 F.2d at 693, 696, 16 USPQ2d at 1901, 1904. *See also In re Grabiak*, 769 F.2d 729, 731, 226 USPQ 870, 871 (Fed. Cir. 1985) ("When chemical compounds have very close' structural similarities and similar utilities, without more a *prima facie* case may be made.")" (MPEP § 2144.08). Here, because the instantly claimed compounds are so close in structure to the antivirals disclosed by Richter, differing by one or two carbon in the claimed compound, and are embraced by the genus of Richter (as defined in the abstract), the instantly claimed compounds would be expected to have similar properties with the compounds of Richter, and thus one would have been motivated to have made the compound with R=11or 12 carbons.

One would have had a reasonable expectation for success in making the antiviral adamantly urea compounds, including the R=11 or 12 carbon, with antiviral activity, as Richter teaches that any adamantyl urea embraced by the genus would have antiviral activity, and

provides examples therein, and Abdulla teaches various adamantyl compounds are known as antivirals, where it is shown that the adamantyl group confers the antiviral activity.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (*In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976). In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Applicant has requested this rejection be withdrawn per MPEP § 804 I(B)1, asserting it is the only outstanding rejection, however as evidenced above, additional rejections are outstanding.

Claims 70, 119-121, 125-129, 131 and 132 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 and 28-60 of copending Application No. 11/256,685 (claims of 3/3/06).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of both applications are drawn to overlapping generic claims of compounds and pharmaceutical compositions, wherein 11/256,685 additionally provides for a method of using the compounds. In looking to the specification for the compounds that provide support for the claims, compound 687 is found in Table 17. Additionally, other species within Application 11/256,685 which also provide support for the claims are found within the tables and claimed, e.g. claim 28 identifies the compounds of Table 18.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW D. KOSAR whose telephone number is (571)272-0913. The examiner can normally be reached on Monday - Friday 08:00 - 16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia J. Tsang can be reached on (571)272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew D Kosar/
Primary Examiner, Art Unit 1654